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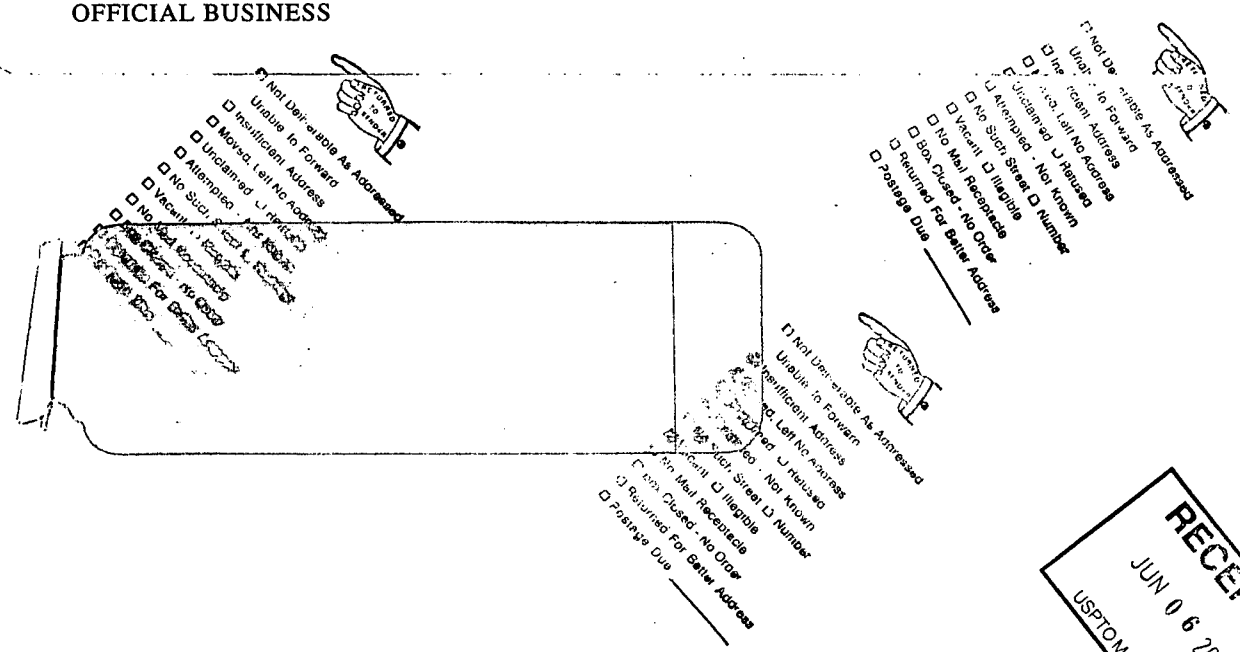

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,240	05/30/2001	Mark C. Duhon	22.1397	8266

7590 04/26/2006

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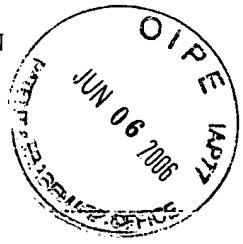

EXAMINER	
GAY, JENNIFER HAWKINS	
ART UNIT	**PAPER NUMBER**
3672	

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/871,240	DUHON ET AL.	
	Examiner	Art Unit	
	Jennifer H. Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3,5-11 and 24-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *34* is/are allowed.

6)☒ Claim(s) *2,3,5-11,24-33,35-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Based on an error in the previous Office Action, the finality of the rejection of the last Office action is withdrawn. The examiner apologizes for inadvertently not including claims 29 and 37 in the rejection presented in the precious Office Action and thanks applicant for bringing this problem to the examiner attention. Examiner's review of the application has shown that this error was made in several of the previous Office Actions and again the examiner apologizes for this mistake. Earlier recognition of this error by the examiner would have prevented the time and expense of an Appeal Brief and reopening prosecution.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2, 3, 27-29, 35, 36, and 44-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Arizmendi (US 5,941,313).

Regarding claim 2: Arizmendi discloses an apparatus usable in a wellbore. The apparatus includes an element formed from titanium or other material that has sufficient strength and elasticity to bend without fracturing, i.e. a superplastic material. The element may be used as a seal (Abstract).

Regarding claim 3: Arizmendi discloses an apparatus usable in a wellbore. The apparatus includes an element formed from titanium or other material that has sufficient strength and elasticity to bend without fracturing, i.e. a superplastic material. The element may be used as an anchor. The examiner notes that wellbore packers inherently act as an anchor for the tubular string they are attached to.

Regarding claim 27: The superplastic element causes the seal to engage downhole tubing or casing.

Regarding claim 28: The apparatus is a packer.

Regarding claim 29: The apparatus could also function as a patch when expanded against the casing.

Regarding claim 35: The packer may also function as an anchor.

Regarding claim 36: The packer includes a seal **26** that is actuated by the movement of a first sleeve **30** relative to a second sleeve **28**.

Regarding claims 44-49: An elongation to failure in excess of 200%, a fine equi-axed grain structure that remains stable during deformation, and a fine equi-axed grain structure in a rage of 2 to 10 micrometers are all inherent properties of a superplastic material.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 102(b) as anticipated by Owen et al. (US 3,712,376) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Owen et al. in view of Miyake et al. (US 6,056,835).

Owen et al. discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum (6:37-43), which is inherently a superplastic material as defined by applicant in the instant application (beginning on page 3, line 28). The element may function as a sand screen (8:18-21).

Alternately, Owen et al. discloses all of the limitations of the above claims except that the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Owen et al. such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

5. Claim 6 is rejected under 35 U.S.C. 102(b) as anticipated by Miszewski et al. (US 5,131,470) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Miszewski et al. in view of Miyake et al.

Miszewski et al. discloses a wellbore shock absorber that includes aluminum elements (6:8-9), which is inherently a superplastic material.

Alternately, Miszewski et al. discloses all of the limitations of the above claims except for the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Brieger such that the element was made from a superplastic material such as that taught by Miszewski et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

6. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by Brieger (US 4,122,899) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brieger in view of Miyake et al.

Brieger discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum, which is inherently a superplastic material, and includes a releasable connector (3:60-63).

Alternately, Brieger discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Brieger such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

7. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by Thompson et al. (US 6,454,001) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Thompson et al. in view of Miyake et al.

Thompson et al. discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed form aluminum, which is inherently a superplastic material, and includes a releasable connector (5:65-6:7).

Alternately, Thompson et al. discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Thompson et al. such that the element

was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

8. Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by Henning (US 4,042,019) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Henning in view of Miyake et al.

Henning discloses an apparatus usable in a wellbore. The apparatus includes an element formed from aluminum (4:42-45), which is inherently a superplastic material. The element is included in a shape charge.

Alternately, Henning discloses all of the limitations of the above claims except that the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Henning such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

9. Claims 10, 11, 37, and 39 are rejected under 35 U.S.C. 102(b) as anticipated by Mohaupt (US 4,081,031) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mohaupt in view of Miyake et al.

Regarding claim 10: Mohaupt discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum (4:5-7), which is inherently a superplastic material, and includes a weak point connector (8:58-60).

Alternately, Mohaupt discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Mohaupt such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Regarding claims 11, 37: Mohaupt discloses an apparatus usable in a wellbore. The apparatus includes a tubular element that is formed from aluminum (4:5-7), which is inherently a superplastic material, and a heating device to heat the element to a temperature at which the material will plastically deform.

Alternately, Mohaupt discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Mohaupt such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without

failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Regarding claim 39: The heating device is a chemical propellant.

10. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi (US 5,941,313) in view of Mohaupt (US 4,081,031).

Regarding claim 30: Arizmendi discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7), which is a known superplastic material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Arizmendi to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

Regarding claim 31: The apparatus includes a piston **30** to cause translation of the element.

Regarding claim 32: The heating device is a chemical propellant.

11. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi (US 5,941,313) in view of Gonzalez et al. (US 6,474,414).

Arizmendi disclose all of the limitations of the above claims except for the element further including a plug to block the flow of fluid through the bore of a conduit.

Gonzalez et al. teaches a downhole plug for blocking flow through a conduit. The plug is characterized as being made from a highly ductile and flowable solder such as aluminum (3:35-37, 6:17-18), which is a known superplastic material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the element of Arizmendi to include a plug such as that taught by Gonzalez et al. in order to have been able to isolate sections of the wellbore from other sections of the wellbore (1:5-16). One would have been motivated to make such a combination because a means for easily installing and removing wellbore plugs would have been obtained, as taught by Gonzalez et al. (2:1-23).

12. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,712,376) in view of Mohaupt (US 4,081,031).

Owen et al. discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7), which is a known superplastic material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Owen et al. to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

13. Alternately, Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,712,376) in view of Miyake et al. (US 6,056,835) as applied to claim 5 above, and further in view of Mohaupt (US 4,081,031).

Owen et al. and Miyake et al. discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Owen et al. in view of Miyake et al. to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

14. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timmons (US 3,380,528) in view of Meitzen (US 3,713,486).

Timmons discloses an apparatus usable in a wellbore. The apparatus includes a fishing tool that includes expandable element (figures 2 and 3) for engaging the inner wall of a conduit to be removed from the wellbore.

Timmons discloses all of the limitations of the above claims except for the element being formed from a superplastic material.

Meitzen discloses a wellbore anchoring devices that includes slips **14** similar to those of Timmons. Meitzen further teaches that the slips are formed from aluminum, which is a known superplastic material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Timmons such that the expandable element of the fishing tool was formed from aluminum as taught by Meitzen in order to have used an expandable element that would have deformed upon contact with the "fish". One would have been motivated to make such a combination because a means for removing a "fish" from the wellbore without damaging the tubular or other lost equipment would have been obtained.

15. Alternately, Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timmons (US 3,380,528) in view of Meitzen (US 3,713,486) and Miyake et al. (US 6,056,835).

Timmons discloses an apparatus usable in a wellbore. The apparatus includes a fishing tool that includes expandable element (figures 2 and 3) for engaging the inner wall of a conduit to be removed from the wellbore.

Timmons discloses all of the limitations of the above claims except for the element being formed from a superplastic material.

Meitzen discloses a wellbore anchoring devices that includes slips **14** similar to those of Timmons. Meitzen further teaches that the slips are formed from aluminum.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Timmons such that the expandable element of the fishing tool was formed from aluminum as taught by Meitzen in order to have used an expandable element that would have deformed upon contact with the "fish". One would have been motivated to make such a combination because a means for removing a "fish" from the wellbore without damaging the tubular or other lost equipment would have been obtained.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Timmons in view of Meitzen such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

16. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmer (US 6,056,059) in view of Mohaupt (US 4,081,031).

Ohmer discloses an apparatus usable in a wellbore. The apparatus includes junction seal assembly that is formed from a super plastic material such as Monel or Inconel (14:55-59). The junction assembly includes tubing that is inserted into a lateral wellbore (Figure 18A-18E).

Ohmer discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Ohmer to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

Allowable Subject Matter

17. Claim 34 is allowed.

Response to Arguments

18. Applicant's arguments filed 28 February 2005 have been fully considered but they are not persuasive.

Though applicant has presented many different arguments with respect to the rejections presented above and in the previous Office Action, those arguments will be addressed below, the crux of applicants argument appears to be assertion that Arizmendi, and the primary references applied in the rejections of the claims under 35 USC 103, do not teach forming the respective elements from a superplastic material. While the examiner acknowledges that the applied references, Miyake and Ohmer excluded, do not specifically stated that the material from which the disclosed elements are made is a

superplastic material, the references do indicate that the elements are made from aluminum, titanium, or magnesium. All of these metals are defined by applicant has being superplastic materials (beginning on page 3, line 28) thus the references do teach forming the disclosed elements from a superplastic material. With the exception of Arizmendi, Miyake was used to further clarify the applied references by stating that aluminum is a known superplastic material.

Applicant has gone on to argue that not all titanium or aluminum alloys are considered superplastic but that the metals must be subject to a specific process in order to make the metal superplastic. In response, the examiner repeats that the specification (beginning on page 3, line 28) defines a superplastic material as either "aluminum, titanium, magnesium, or other light metal" and merely lists one alloy as an example (beginning on page 7, line 22) of the above metals without excluding the metals themselves thus indicating that applicant has defined the above metals as generally superplastic materials. This is supported by Werner et al. (US 6,464,019; previously cited), which provides the same excepted definition of a superplastic material (5:59-6:27). The fact that a material must be put through a certain process does not indicate that those materials listed by applicant are not superplastic materials. Applicant's argument that "aluminum, titanium, magnesium, or other light metals" are not superplastic materials is contrary to applicant's specification as indicated above.

The remainder of applicants' arguments is addressed below.

Applicant has argued that Arizmendi does not disclose an element formed of a superplastic material. Specifically, applicant argues that the titanium disclosed by Arizmendi is not a superplastic material because the fact that a body is able to bend without fracturing does not make it superplastic and that a material does not automatically become a superplastic material, that a specific process is required.

In response, the examiner repeats her previous the specification (beginning on page 3, line 28) defines a superplastic material as either "aluminum, titanium, magnesium, or other light metal" and merely lists one alloy as an example (beginning on

page 7, line 22) of the above metals without excluding the metals themselves thus indicating that applicant has defined the above metals as generally superplastic materials. It is further noted that being able to bend without fracturing is in fact one of the definitions of a superplastic material as provided by applicant.

Applicant has also argued that there is no teaching in Arizmendi of performing a special process on the various material of the sheath body 22 to make the material superplastic. Such a process need not be taught, as this is not a feature of any of the claims. Further, based on applicants definition of what a superplastic material is Arizmendi teaches a superplastic material by teaching that the sheath can be made of titanium.

Applicant has argued that Arizmendi does not teach or suggest the characteristics recited in claims 44-49 and indicates that titanium would not necessarily have these properties if the special process were not performed. While the examiner acknowledges that Arizmendi does not specifically teach the properties recited in claims 44-49, applicant has stated that titanium is a superplastic material and has also stated that the limitations of claims 44-49 are known properties of a superplastic material. Therefore, because Arizmendi teaches forming the disclosed element from titanium the limitations of claims 44-49 are inherently taught.

Applicant has argued that Owen does not teach a sand screen being formed of a superplastic material. In response, the examiner notes that the sand screen of Owen is described as being formed of aluminum, which has been defined by applicant as a superplastic material, thus Owen does teach a sand screen formed of a superplastic material. This same response is applied to the arguments applicant has made regarding Brieger, Thompson, Menning, Mohaupt, Timmons, Meitzen, and Ohmer.

Applicant has also argued that there is no teaching or motivation other than hindsight to form the sand screen of Owen, or the elements taught in Brieger, Thompson, Menning, Mohaupt, Miszewski, Timmons, Meitzen, and Ohmer. The examiner notes that such a teaching or motivation need not be found in the above references as each of

the disclosed elements is described as being formed from aluminum, which is a know superplastic material, and that Miyake was combine with the above references merely as a teaching that aluminum was a known superplastic material and is offered in alternative to the above references inherently teaching superplastic materials.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant has argued that Arizmendi does not teach or suggest a heating device to heat a superplastic material to a temperature such that the element exhibits superplastic behavior. In response, the examiner notes that she has not indicated that Arizmendi discloses this feature and has used Mohaupt to teach such a heating device.

However, applicant has also argued that Mohaupt does not teach or suggest such a heating device either because the chemical generator taught by Mohaupt causes bursting, failure, or swelling of the housing, the aluminum element of the chemical generator, thus clearly not teaching heating a superplastic material such that it exhibits superplastic behavior.

In response, the examiner first notes that the chemical generator of Mohaupt forms a flame, which is a known heat source, thus is clearly a heating device.

Secondly, the examiner notes that Mohaupt only teaches that the housing will fail or burst if formed from rigid plastic (4:9-14) and the swelling taught by Mohaupt would be considered equivalent to expansion of the superplastic material. Further, Mohaupt was used merely to teach the heating of a superplastic material, i.e. aluminum, in the wellbore and the specifics of the device taught by Mohaupt are not relevant to the rejection. It is also noted that Miyake et al. clearly teaches that it is considered well known that the heating superplastic materials to cause them to exhibit superplastic behavior (4:4-7).

Applicant has also argued that there is no motivation to combine Arizmendi and Mohaupt. The examiner notes that, while not specifically stated in Mohaupt, Mohaupt has inferred that the heating of a superplastic material, i.e. aluminum, would increase that material ability to expand. This can be seen by the fact that the flame produced by the device of Mohaupt causes the aluminum element to swell. Further, though not applied to reject claim 30, Miyake teaches that it is considered well known that the heating superplastic materials to cause them to exhibit superplastic behavior (4:4-7).

Applicant has argued that Arizmendi does not disclose a plug formed of a superplastic material. In response, the examiner notes that she has not indicated that Arizmendi teaches this feature and has relied upon Gonzalez to teach such a plug.

However, applicant has also argued that Gonzalez does not teach such pug because the plug taught by Gonzalez is a molten metal plug, i.e. the plug is formed by melting a metal, and thus clearly different from that disclosed in the instant application.

In response, the examiner first notes that the plug of Gonzalez is formed from aluminum, which has been defined as a superplastic material thus meeting the limitations of the claim. Secondly, the plug disclosed by applicant is also melted, i.e. "heated to a molted or liquid state", (beginning pate 4, line 16) thus applicants argument that the plug of Gonzalez is clearly different from that of the instant application because it is a molten metal plug has no basis as this a characteristic of the applicants plug.

Applicant has argued that there is no motivation within Miyake of using the disclosed superplastic material in a downhole apparatus. In response, the examiner notes that Miyake has been used to merely further clarify that aluminum is a known superplastic material. The reference is not specific as to the use of the disclosed alloy as it is concerned only with the alloy itself thus the above argument is not pertinent to the rejection. Further, Miyake was used merely to supply a teaching that aluminum was a known superplastic material as admitted by applicant beginning in line 30 of page 3 of the specification of the instant application. Miyake was specifically to define the

elements of Owens, Miszewski, Brieger, Thompson, Henning, Timmons, Meitzen, or Mohaupt as being formed from a superplastic material.

Applicant has argued that there is no teaching in Ohmer of the desirability of incorporating a heating device to heat an element formed of a superplastic material. The examiner first notes that applicant is arguing the rejection of claim 42 as if it has been rejected under 35 USC 102 instead of 35 USC 103. It has not been indicated that Ohmer teaches a heating device or the desirability to include one as this feature was taught by the secondary reference Mohaupt. Secondly, though not applied to reject claim 30, Miyake teaches that it is considered well known that the heating superplastic materials to cause them to exhibit superplastic behavior (4:4-7).

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG
April 20, 2006